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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re U.S. Patent Application of	)	
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Fore et al.	)	
	)	
Serial No. 10/087,585	)	Mr. Evan H. Langdon
	)	Examiner
Filed March 1, 2002	)	Group 3654
	)	
For: **Wire Winding Machine with Arcuate Moveable Traverse and Wire Directional Control Device**	)	
	)	
Attorney Docket No. 4287-013	)	
	)	

Raleigh, North Carolina
November 12, 2004

MS Appeal Brief Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The present appeal brief is filed in triplicate pursuant to 37 C.F.R. § 1.192. Applicant also encloses a check in the amount of $170.00 as required by 37 C.F.R. § 1.17(b), and a check in the amount of $55.00 for a one-month extension of time.

APPEAL BRIEF

(1) REAL PARTY IN INTEREST

The real party in interest is X-Spooler, Inc.

(2) RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

(3) STATUS OF CLAIMS

Claims 1-14, 16, 17 and 19-44 are pending.

Claims 11- 14, 16, 22-41 stand allowed.

Claim 44 is objected to.

Claims 1-10, 17, 19-21, 42 and 43 stand rejected.

(4) STATUS OF AMENDMENTS

All amendments have been entered.

(5) SUMMARY OF INVENTION

The present invention relates to a wire winding machine 300. Wire winding machine 300 is shown in Figure 1 of the drawings and discussed at page 6, ll. 10-18 of the specification. Wire winding machine 300 includes a pair of rotatively driven spaced apart mandrels 324. Figure 2, and spec. p. 8, ll. 8-18. Each mandrel is rotatable about an axis. Further, wire winding machine 300 is provided with a traverse 502 for guiding wire onto each one of the pair of mandrels 324, one mandrel at a time. See Figures 2, 3A, 3B, and 4A-4Q; spec. p. 8, ll. 24-26; p. 9 ll. 109. Traverse 502 is movable between first and second positions such that in the first position the traverse acts to guide wire onto one of the rotating mandrels, and in the second position the traverse acts to guide wire onto the other mandrel. See Figure 4A and Figure 4G. Further, traverse 502 is movable along an arcuate path as the traverse moves between the first and second positions. Spec. p. 17, ll. 10-16; Figure 7. In addition, the movement of the traverse 502 between the two mandrels 324 is confined to movement between the two axis of the mandrels. See Figures 4A-4Q.

The function of the traverse 502 is to guide and uniformly place the wire onto each of the mandrels 324 when the mandrels are being rotated.

Traverse 502 includes an oscillating traverse arm. See Figure 7; spec. p. 16, ll. 3-6. The oscillating traverse arm is driven back and forth in a direction generally parallel to the axis of the adjacent rotating mandrel 324. That is, as the mandrel 324 rotates, the oscillating traverse arm 518 moves back and forth so as to wind the wire onto the mandrel in a uniform or programmed manner.

The wire winding machine 300 also includes a wire transfer arm 352. See Figures 4A-4Q and spec. p. 8, ll. 19-23. The function of the wire transfer arm 352 is to transfer the wire from a first mandrel 324, after it has been completely wound, to the adjacent mandrel. The wire transfer arm 352 does not guide the wire onto the mandrel during the winding operation. That is the function of the traverse 502.

(6) ISSUES

Whether claims 1-10. 17, 19-21, 42 and 43 are anticipated under 35 U.S.C. §102(b) by Engmann et al., U.S. Patent No. 4,098,467.

(7) GROUPING OF CLAIMS

Group I: Claims 1, 10, 17, 19-21, 42 and 43

(8) ARGUMENT

Claim 1 is as follows:

> A wire winding machine comprising:
> a pair of rotatably driven spaced apart mandrels, each mandrel being rotatable about an axis;
> a traverse for guiding wire onto each one of the pair of mandrels, one mandrel at a time;
> the traverse being moveable between first and second positions such that in the first position the traverse acts to guide wire onto one of the mandrels and in the second position the traverse acts to guide wire onto the other mandrel; and
> wherein the traverse is moveable along an arcuate path as the traverse moves between the first and second positions, and wherein the movement of the traverse is confined to movement between the two axis of the mandrels.

The Examiner has rejected claim 1 as being anticipated by Engmann. The central issue in this case is whether the Engmann reference shows a traverse that is movable, along an arcuate path, between first and second positions and where the movement of the traverse is confined between the two axis of the mandrels. In rejecting claim 1 under Engmann, the Examiner takes the position that the structure referred to by the numeral 7 is a traverse. As discussed below, the Examiner has misconstrued claim 1 and had further misconstrued the Engmann reference. The structure labeled 7 in the Engmann patent is not a traverse at all. It is a transfer arm. For this reason, the Engmann patent does not anticipate claim 1 of the present application.

In a wire winding machine, it is the traverse that guides the wire on the rotating spool or mandrel during the wire winding operation. That is, as the spool is rotatively driven, the traverse engages the wire prior to reaching the mandrel or the spool, and by continuously moving back and forth across the spool, the traverse functions to cause the wire to be uniformly wound on the spool or mandrel from end to end.

Applicant's traverse is described on pages 15-17 of the specification and is illustrated in Figure 7 of the drawings. Further, the basic operation of the traverse 502 is shown in the sequence of drawings labeled 4A-4Q. Applicant, in the specification, stated that the traverse 502 includes an oscillating traverse arm. In the particular embodiment illustrated, the traverse arm carries a wire directional control device that is indicated generally by the numeral 518. Wire is fed through the wire directional control device 518 and to one of the two mandrels 324. A servo-motor (not shown) is controlled by a programmed controller 452 that positions the wire control device 518 and the traverse at certain programmed positions. As the specification indicates, the programmable controller controls the traverse and the relationship of the traverse with respect to the adjacent mandrel receiving the wire, such that the wire or cable being wound is wound according to a programmed configuration. See spec. pp. 15-17.[1]

In addition, the specification at page 16 incorporated by reference U.S. Patent No. 5,499,775 (the '775 patent) (Exhibit 1) and particularly directed attention to the disclosure of the traverse therein. In the '775 patent, the traverse is shown and described as follows:

> Referring now to Figures 4-6, the traverse assembly 300 is shown. The traverse assembly 300 includes a sliding traverse 302 which reciprocates along a path parallel to the axis of the spindle 202. The traverse 302 is slidably mounted on track 304 which is mounted on the traverse port arm 140.

'775 patent, col. 4, lines 31-36.

The term "traverse" as used in wire or cable winding technology is a term of art. The term is widely and extensively used to refer to that part of a wire or cable winding machine that guides the wire onto a rotating mandrel or spindle such that the wire is uniformly wound from end to end on the mandrel or spindle. A review of wire winding or cable winding machines will

[1] Also see Applicant's amendment filed with the PTO on April 7, 2004 where a number of reference numerals appearing in this section of the specification were corrected.

reveal the substantial use of the term "traverse" or "traversing device" to define such a structure. For example, the Board is referred to U.S. Patent No. 5,678,778 (a patent that is owned by one of the leading manufacturers of cable winding machines in the United States, Windings, Inc.). Note the description of the traverse that appears on column 6, lines 62-67 and column 7, lines 1-56. The patentee in this case, Windings, Inc., owns numerous patents on wire winding machines and a review of its patents reveals the systematic use of traverse to describe the reciprocating guide device or structure that moves back and forth in a direction generally parallel to the axis of the rotating spindle or mandrel to guide wire onto the same.

Now turning to the Examiner's position, the Examiner maintains that claim 1 is anticipated by Engmann. The Examiner takes the position that Engmann includes a traverse and that the traverse is part no. 7. Respectfully, this is error. Part no. 7 of Engmann is not a traverse. It is a transfer arm. The traverse in Engmann is shown in Figure 1 and referred to by the numeral 10. In Figure 2 the traverse 10 includes a pair of arms 11 that reciprocate back and forth in the direction of the dual arrows referred to by A. Note that the mandrel or spool A is disposed thereunder and that the traverse 10 is operative to oscillate back and forth to wind wire or cable onto the spindle A. This is explained in the written specification of the Engmann patent:

> The wire 1 is initially fed over one of two entry or feed rollers 2a and 2b, and thence to respective ones of two pairs of guiding pulleys 3a and 3b which are mounted on traversing carriage 10 being carried by means of arms 11. In known manner, the arms 11 are movable parallel to the axes of the spools 4 and 8 as seen by arrow A in Fig. 2 and the pulleys 3A and 3b are rotatable by drive means located in the traversing carriage and/or housing in planes parallel to the planes in which the spools 4 and 8 are rotated so that wire is drawn on to the respective spools 4 and 8 from the pulleys and caused to traverse evenly along the length of the cores of the spools 4 and 8. (emphasis added)

Engmann patent, col. 2, ll. 47-59.

Now turning to arm 7 that the Examiner misconstrues as a traverse. Engmann refers to part no. 7 as an arm - not a traverse. As noted above Engmann refers to 10 and 10' and the components thereof as the "traversing carriage." In any event, the arm 7 is simply a transfer device that is used to transfer the wire from one spool to another spool once the spool has been wound with wire. This is explained by Engmann as follows:

> When the spool 4 has received almost all its complement of wire, e.g., when it is almost full with wound wire, the roller 5 is pivoted by the motor M1 to the position 6 (midway between its end positions) so that it is raised above the auxiliary spool and the flange 17 of the spool 4. The arm 7 then is caused to swing over to the spool 8 to take up the position shown in full lines in Fig. 1. The roller 5, which is then in position 6', is subsequently pivoted back to its original end position shown at 9'. By this means, the roller has been lifted clear o the flanges 17 of the spools 8 and 12 when the arm 7 swings to the spool 8.

Engmann patent, col. 3, ll. 43-55.

Further, the inventor in Engmann states that the purpose of the arm 7 is to provide a wire feed changeover.

Consequently, it is clear that the traverse in Engmann is not arm 7, but is the traversing structure indicated by numerals 10. The real traverse in the Engmann patent does not meet the terms of the claims. In particular, traverse 10 in Engmann is not movable along an arcuate path. The traverse 10 in Engmann moves back and forth, as illustrated in Figure 1, the traverse is moving in a straight line. Further, the movement of the real traverse in Engmann is not confined to movement between the two axes of the mandrels.

For the foregoing reasons, it is respectfully urged that the rejection is improper and that the rejection of the Examiner must be reversed.[2]

Respectfully submitted,

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CERTIFICATE OF MAILING

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SIGNATURE Kathy L. Stutts

DATE 11/12/2004

[2] It is believed that all claims rejected suffer from the deficiency argued above. For that reason they all stand or fall together.

(9) APPENDIX

Claims

1. A wire winding machine comprising:

a pair of rotatably driven spaced apart mandrels, each mandrel being rotatable about an axis;

a traverse for guiding wire onto each one of the pair of mandrels, one mandrel at a time;

the traverse being moveable between first and second positions such that in the first position the traverse acts to guide wire onto one of the mandrels and in the second position the traverse acts to guide wire onto the other mandrel; and

wherein the traverse is moveable along an arcuate path as the traverse moves between the first and second positions, and wherein the movement of the traverse is confined to movement between the two axes of the mandrels.

2. The wire winding machine of claim 1 wherein as the traverse moves between the first and second positions, the traverse swings about an axis.

3. The wire winding machine of claim 1 including a frame structure and wherein the axis extends transversely across the frame structure of a wire winding machine.

4. The wire winding machine of claim 2 including a double acting fluid cylinder for swinging the traverse between the first and second positions.

5. The wire winding machine of claim 1 including a frame rotatably mounted on a shaft, the traverse being mounted to the frame and moveable therewith.

6. The wire winding machine of claim 5 including a fluid cylinder operatively connected to the frame for moving the frame back and forth about the shaft.

7. The wire winding machine or claim 6 wherein the cylinder is connected between a frame structure associated with the wire winding machine and the frame.

8. The wire winding machine of claim 5 wherein the frame includes a cradle suspended from the shaft.

9. The wire winding machine of claim 5 wherein the frame includes a generally rectangular frame structure and a pair of swing arms, the swing arms being secured to the rectangular frame structure and rotatably journaled around the shaft such that the rectangular frame may swing back and forth on the shaft.

10. The wire winding machine of claim 1 further including a single transfer arm for transferring wire from one mandrel to another mandrel.

17. A method of winding wire onto each of two mandrels of a dual head wire winding machine, each mandrel including an axis of rotation, comprising:

a. directing wire to a traverse and from the traverse to one of the two mandrels;

b. winding wire on one mandrel and then transferring the wire to the other mandrel, and continuing to wind wire on the respective mandrels, one mandrel at a time, and transferring the wire from one mandrel to another;

c. moving the traverse from one position to another position in the course of transferring wire from one mandrel to the other;

d. wherein moving the traverse from one position to another includes swinging the traverse in an arcuate path between the positions; and confining the traverse between the axis of the two mandrels.

19. The method of claim 17 wherein the traverse is mounted to a frame that is suspended from a shaft, and wherein there is provided an actuator for moving the frame about the axis of the shaft such that the traverse is moved between the two positions.

20. The method of claim 17 including cantilevering the traverse from the frame and suspending the frame from a support structure that permits the frame to move back and forth about an axis.

21. The method of claim 20 including suspending the frame from a shaft and utilizing a double-acting fluid cylinder to move the frame back and forth about the axis of the shaft, resulting in the traverse being moved back and forth in an arcuate path.

42. The wire winding machine of claim 1 wherein the wire winding machine includes a main frame and wherein the mandrels project outwardly from one side the main frame; and wherein the traverse is secured to a supporting frame structure mounted to the main frame structure inwardly of the mandrels and wherein the traverse projects outwardly from the main frame structure.

43. The wire winding machine of claim 42 further including a shaft mounted to the main frame structure, a pair of arms rotatively mounted to the shaft and depending downwardly therefrom, and wherein the supporting frame structure of the traverse is secured to the arms such that the supporting frame structure of the traverse swings back and forth as the arms rotate on the shaft.